

CLASSIFIED MESSAGE

MFG. 5-33

Approved For Release 2002/08/21 : CIA-RDP89B00980R000200170048-3

DATE 1638Z 03 JUN 64

S E C R E T

ROUTING

1	200170048-3	9
2		10
3		11
4		12
5		13
6		14
7		15
8		16

TO : DIRECTOR

FROM : ACTION: *OSA 1-15*

INFO :

ROUTINE

IN 81484

TOR: 1732Z 3 JUN 64

TO

INFO

CITE

067925X1

SUBJ: ECP-176 HYPOXIA WARNING SYSTEM

RECENTLY COMPLETED FLIGHT TESTS INDICATE THAT YOUR APPROVAL OF THE HYPOXIA WARNING MODIFICATION, ECP-176, SHOULD BE RECONSIDERED. THE DEGREE THAT THIS MOD ACCOMPLISHES THE ORIGINAL THREE OBJECTIVES IS DISCUSSED BELOW.

1. IMPROVE PILOT SAFETY: CONSENSUS OF OPINION BY FLIGHT TEST PILOTS AND THE PROJECT IS THAT PILOT SAFETY IS NOT INCREASED BY THE MODIFICATION AND COULD BE ADVERSELY AFFECTED IF THE SYSTEM WERE TO MALFUNCTION. LACK OR REDUCTION OF OXYGEN PRESSURE IN THE HELMET IS IMMEDIATELY SENSED BY THE PILOT BY THE INABILITY TO COMPLETELY FILL HIS LUNGS. ALSO THE HELMET BLADDER WILL CONTRACT AGAINST HIS HEAD-THIS WILL BE DETECTED MUCH SOONER THAN THE REACTION OF THE HYPOXIA WARNING SYSTEM. IT MUST BE ASSUMED THAT THE OXYGEN BOTTLES CONTAIN ONLY PURE OXYGEN AND THAT ANY PRESSURE INTO THE PILOT'S HELMET WILL BE OXYGEN PRESSURE.

A FALSE HYPOXIA WARNING CAUSED BY MALFUNCTION OF THE EQUIPMENT COULD CREATE A HAZARD SINCE PROCEDURES IN MAKING A RAPID

S E C R E T

GROUP 1
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12

25X1

[] 8679 (IN 81484)

S E C R E T

PAGE TWO

DESCENT ARE NECESSARILY HAZARDOUS. FALSE HYPOXIA WARNINGS HAVE NOT OCCURRED TO OUR KNOWLEDGE, AND MOST MALFUNCTIONS WILL BE OBVIOUS TO THE PILOT BY THE PRESENCE OF THE RED "OFF" FLAG IN THE INDICATOR OR BY THE NEEDLE INDICATING AN IMPOSSIBLE VALUE.

2. ADDITION OF HYPOXIA WARNING TO [] THE FACTS 25X1 REGARDING THIS OBJECTIVE REMAIN UNCHANGED BY FLIGHT TEST RESULTS. THE MODIFICATION WOULD PROVIDE MONITORING OF THE OXYGEN SYSTEM AT THE PILOT'S HELMET. THE EXISTING [] CIRCUIT MONITORS 25X1 OXYGEN PRESSURE AT THE OXYGEN CONSOLE. THE IMPROVEMENT OF THIS MODIFICATION IS TO PROVIDE MONITORING OF THE OXY LINES BETWEEN THE OXY CONSOLE AND THE PILOT'S HELMET INCLUDING THE PRESSURE REGULATOR IN THE SEAT PACK. THIS REGULATOR HAS NEVER FAILED TO THE CONTRACTORS KNOWLEDGE.

3. PROVIDE A "PILOT BREATHING" SENSOR FOR [] 25X1 FLIGHT TEST PROVIDED:

- A. OSCILLOGRAPH RECORDS OF THE HYPOXIA AMPLIFIER OUTPUT SIGNAL AS MODULATED BY PILOT BREATHING.
- B. MAGNETIC TAPE RECORDINGS OF THE PILOT'S MIKE OUTPUT SIGNAL AS MODULATED BY PILOT BREATHING WHEN THE COMMUNICATION TRANSMITTER WAS NOT IN USE.

25X1

THE [] MANUFACTURER HAS BEEN FURNISHED THIS DATA AND IS DETERMINING THE USABILITY OF EITHER OF THESE SIGNALS TO OBTAIN A [] TRANSMISSION IN THE 25X1 EVENT THAT BREATHING STOPS FOR A SPECIFIED LENGTH OF TIME (1 MIN.). IF THE MIKE OUTPUT PROVES SATISFACTORY, THE HYPOXIA WARNING MODIFICATION WOULD NOT BE NECESSARY FOR THIS PURPOSE.

S E C R E T

25X1

[] 0679 (IN 81484)

S E C R E T

PAGE THREE

25X1

[] RECOMMENDS THAT NO FURTHER ACTION BE TAKEN UNTIL
ITEM 3 ABOVE IS RESOLVED BY THE [] MANUFACTURER,
AFTER WHICH TIME THE ADVANTAGES OF THE MODIFICATION CAN BE
WEIGHED AGAINST THE INITIAL COST OF KITS AND SPARES, THE REOC-
CURRING COST FOR REPLACEMENT OF THE HYPOXIA SENSOR, AND THE
COMPLICATIONS OF CALIBRATING THE HYPOXIA AMPLIFIER PRIOR TO
EACH FLIGHT.

25X1

WE ARE TAKING THE LIBERTY OF WITHHOLDING ALL PURCHASE ORDERS
AND ANY FURTHER DESIGN AND FABRICATION ACTIVITY UNTIL YOU CAN
ADVISE US OF YOUR CONCLUSIONS. THIS WOULD RELEASE APPROXIMATELY

25X1

[] FROM OUR CURRENT COMMITMENTS.

END OF MESSAGE

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